Tandem MIG™ 900 Amp Welding Torch

The Lincoln Tandem MIG 900 Amp Welding Torch is designed for high amperage welding applications. The water-cooled torch provides continuous duty welding at 900 amps with mixed gasses. Rigid machined aluminum case and mounting bracket, plus high temperature epoxy molded internal body design features provide consistent contact tip alignment and dimensional stability in the most demanding applications. Precision water cooling of the welding cables, internal torch components and gas nozzle assembly insures long component life and low maintenance. The torch is ideal for high current applications using a robot or as a fixed torch in hard automation work stations.

Processes

Tandem MIG **Dual Wire GMAW**

Advantage Lincoln

- **High 900 amp rating for mixed gases, 100% duty cycle for long service life.**
- **Wide range of useable wire diameters (.035-.078 inches) provides versatility to fill a variety of application requirements.**
- **Cool operation for extended component life. Three separate water supply circulators provide cooling to critical components.**
- **Water-cooling lines extend through internal torch body for maximum cooling of contact tips and for lower maintenance and control of critical tip alignment.**
- **Rigid machined aluminum case and mounting bracket for reliable dimensional tolerances.**
- **Straight barrel configuration for easy indexing and positioning when used with automated slides.**
- **Process derived contact tip spacing and angularity.**

Recommended Expendable Parts

Wire liners, contact tips, diffusers, torch shields, nozzles, nozzle shields

Recommended Wire Feeders

Power Feed 10 Robotic Wire Feeders K1780-1* or K1780-2*
**Requires use of K489-7 Fast-Mate™ adapters and K1500-1 gun connector*

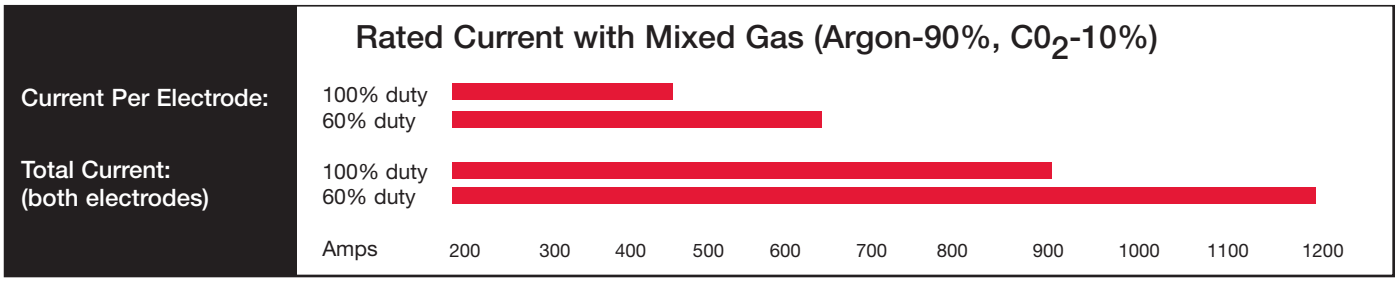
Recommended Power Sources

Tandem MIG Power Sources :

K2262-1-TM	Tandem MIG Power Wave 455M Robotic
K1519-1-TM	Tandem MIG Power Wave 655 Robotic

Order

G3494-XA Tandem MIG 900 Amp Welding Torch
**X specifies torch cable length*



For additional Tandem MIG information, request Tandem MIG Process document E10.60.

SYSTEM RECOMMENDATIONS

Welding Torch Protection:
When mounted on a Fanuc Robot, the S22693-172 Rigid Mounting Bracket is used along with Fanuc Collision Guard software. The rigid torch mounting and software combination assures repeatable torch placement and operator safety.

The M17809 Collision Sensor is recommended when using robotic arms that are not supported with collision sensing software and for fixed torch mounting associated with hard automation applications.

Recommended Wire Packaging:
When selecting wire packaging for wire diameters of .052" and below, the Tandem MIG 900 Amp Welding Torch should be regarded as a straight barrel torch, and the wire should have a consistent cast that promotes good electrical contact at the contact tip. Wire packaging that provides a consistent cast include spools, coils and Speed-Feed reels. When using Accu-Trak™ drums or boxes, a combination of two K1733-1 wire straighteners should be used to provide a cast to the wire.

Automatic Torch Cleaning
Internal Air Blast: (robotic and fixed torch applications)
Each torch is supplied with an isolated gas hose and internal air routing for performing an optional air blast function. As standard, the torch is configured to receive a high pressure air purge that forces air between the two diffusers to remove spatter from the internal portion of the nozzle. Required equipment: high pressure air line capable of supplying dry air and solenoid.

Torch Reamer: (robotic application)
Increased production efficiency is established when using the M18426-1 Torch Reamer. The reamer is designed to remove unwanted spatter from the torch nozzle area, eliminating costly downtime associated with nozzle maintenance. It is equipped with a single stroke reaming tool that cleans one side of the torch at a time. The torch is then indexed to ream the second side. Reamer comes complete with torch locating plate and anti-spatter misting station.

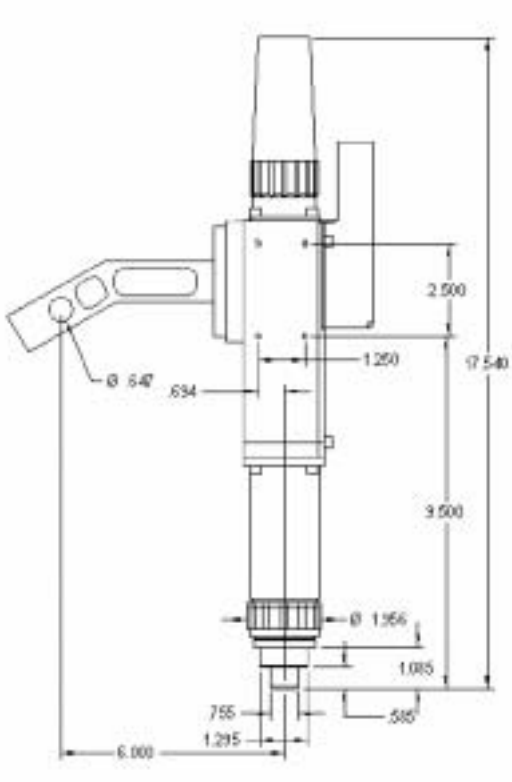
Water-cooling:
The torch utilizes three water coolers to maintain cool operation under extreme welding conditions. Each electrode power cable is water cooled to provide extended life of current carrying cables. A third cooler is used to provide coolant directly to the nozzle, further extending contact tip life and minimizing nozzle maintenance. Recommended AD1013-3 cooling system includes: Cool-Arc 40 water cooler, Magnum flow sensor and 25 ft each of water delivery and return hoses.

A CLOSER LOOK

Tandem MIG 900 Amp Welding Torch

Torch Specifications :
Duty Cycle: 900 amps 100% duty, mixed gas
1200 amps 60% duty, mixed gas
Max. current per electrode: 650 amps
Cooling requirements: Three separate water circulating sources each providing a min. of .45 gpm, at 40 psi each
Weight: 9.8 lbs. (with cables elevated 1 ft., 4 ft. from torch mounting bracket)
Available Lengths: 4 ft., 6 ft., 8 ft., 10 ft., 12 ft.
Compatible Torch Reamer with external sprayer: **M18426-1**

Torch Dimensions
Torch and Robot Bracket Assembly (ordered separately).
Dimensions in inches.



ORDERING INFORMATION:
Welding torch with diffusers (less contact tips, wire conduit liners, mounting bracket and mounting bracket insulator).
- *Requires (2) K489-7 Fast-Mate™ adapters and (2) K1500-1 gun connectors for use with K1780-1 and K1780-2 Power Feed 10R wire feeders.*

Description	Part number	Shipping weight
Torch with 4 ft. cables	G3494-2A	17 lbs.
Torch with 6 ft. cables	G3494-3A	20.2 lbs.
Torch with 8 ft. cables	G3494-4A	23.4 lbs.
Torch with 10 ft. cables	G3494-5A	26.6 lbs.
Torch with 12 ft. cables	G3494-6A	29.8 lbs.
Robot Bracket Assembly	S24201	.5 lbs.
Bracket Arm to Torch Body Insulator	M19190	.2 lbs.
Torch Cooling Package (3) Required	AD1013-3	29 lbs.

EXPENDABLE REPLACEMENT PARTS

Gas Nozzles:
A variety of nozzles are available for different application needs. All nozzles are made of machined copper with nickel plating. The large cooling chamber configuration provides excellent cooling in extreme applications.

Standard S24198-5 nozzle supplied with torch

S24198-4 beveled nozzle

M19558

M19267

Nozzle shields are supplied both as a high temperature resistant ceramic (M19558) and a high temperature glass epoxy fiber shield (M19267). The M19267 shield (supplied with torch) is recommended for applications that will not tolerate the possible chipping or breaking of a ceramic shield. Both shields fit the standard G3494-XA torches.

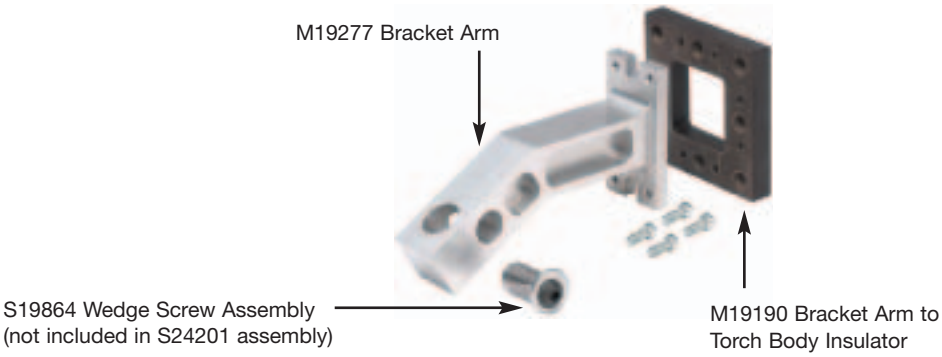
S24432-A S24432-1A

Torch shields are designed to protect the internal molded portion of the torch. The shields are furnished in two designs. One with an air blast relief for air blast direction (S24432-A) and a second supplied as a solid shield without the relief (S24432-1A). The S24432-1A is recommended if an air blast function is not being employed.

EXPENDABLE REPLACEMENT PARTS

The S24201 Robot Bracket Assembly is made of strong lightweight aluminum. The bracket is machined for precision dimensional tolerance and is designed to accommodate most collision sensors. Mounting the Bracket Arm to a collision sensor requires an S19864 wedge screw assembly.

Robot Bracket Assembly S24201 consists of:
1) M19277 Bracket Arm
2) M19190 Bracket Arm to Torch Body Insulator



EXPENDABLE REPLACEMENT PARTS FOR TANDEM MIG 900 AMP WELDING TORCH

Parts Description	Part Number	Quantity	Price
Torch shield (with air blast)	S24432-A		
Torch shield (solid)	S24432-1A		
Nozzle, extended	S24198-1		
Nozzle, recessed	S24198-2		
Nozzle, wide	S24198-3		
Nozzle, beveled	S24198-4		
Nozzle, standard	S24198-5		
Nozzle, wide heavy	S24198-6		
Nozzle shield (fiber)	M19267		
Nozzle shield (ceramic)	M19558		
Liner 9 ft. .035/.045	S24198-10		
Liner 9 ft. .052/.078	S24198-11		
Liner 15 ft. .035/.045	S24198-12		
Liner 15 ft. .052/.078	S24198-13		
Diffuser (2) required	M19186		
Contact tip (.030 heavy duty)	KP2011-2B1		
Contact tip (.035 heavy duty)	KP2020-1B1 (qty. 10)		
Contact tip (.040 heavy duty)	KP2021-6B1 (qty. 10)		
Contact tip (.045 heavy duty)	KP2020-2B1 (qty. 10)		
Contact tip (.052 heavy duty)	KP2020-3B1 (qty. 10)		
Contact tip (.062 heavy duty)	KP2020-4B1 (qty. 10)		
Contact tip (.078 heavy duty)	KP2020-5B1 (qty. 10)		
Fast-Mate Adapter (2) required	K489-7		
		TOTAL:	

CUSTOMER ASSISTANCE POLICY

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